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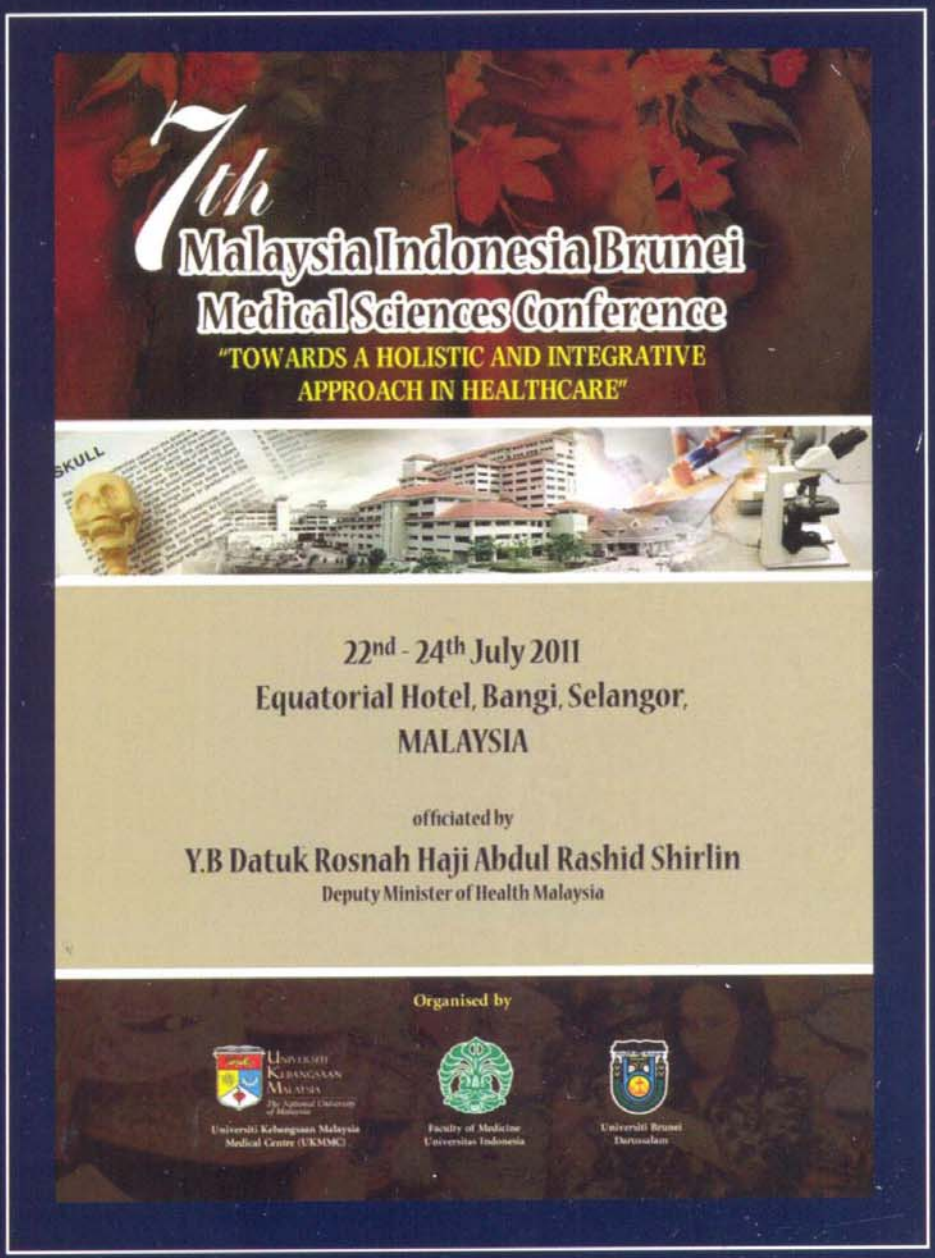

GENETIC PROFILING FOR GENES INVOLVED IN GDM RISK FACTORS AND COMPLICATIONS

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Background:
Gestational diabetes mellitus (GDM) is associated with pregnancy complications, however, its mechanism has not been fully understood. The aim of this study was to look at the possible SNP profiling genes involvement in the complications and risk factors of GDM.

Materials and Methods:
A total of 174 pregnant women with GDM and 114 healthy pregnant women were recruited. They were screened with modified glucose tolerance test (MGTT) at 28 weeks and six weeks post partum to recognize their diabetic status. The case-control subjects were genotyped with 384 SNPs using the Illumina's Golden Gate genotyping assay. Chi square test was employed to use Fisher's exact p-value for SNP association in GDM related traits.

Results:
Family history of diabetes risk factor had significant different in genotypes of *CDKAL1, TSPAN8* and *LTA* between GDM and the control group. This was similarly seen in *LPL* and *OXTR* genes for complications of uterus bigger than dates, cesarean section and macrosomia. Other genes such as *RFTN1, FBXW7, AHI1, SLC2A2* and *IRS1* had suggested feasible role in either one of the GDM clinical manifestations and complications. The relationship between the occurrences of type 2 diabetes mellitus and SNP was presented at three markers of *TCF7L2* gene and *ALG10*.

Conclusion:
The above mentioned genes were found to have possible association with GDM risk factors and complications.

Keywords:
gestational diabetes mellitus, complications, single nucleotide polymorphism, association, Malaysian